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ABSTRACT

Data from two studies of 30 year olds were compared on the importance ascribed to and satisfaction derived from 15 life components. The relative frequency with which Carter's (1983) research population of graduate students indicated that life components were important or were sources of satisfaction were compared through critical ratios with corresponding percentages in a national sample of 30 year olds studied by Flanagan (1978, 1979). Weighted and unweighted satisfaction scores were contrasted in examining sex and marital status differences in graduate student quality of life. A principal components analysis of weighted satisfaction scores yielded five orthogonal factors among the 15 life components. Quality of life subscales for active use of leisure time, personal development and fulfillment, personal fulfillment through others, family well being, and close friends and relatives revealed different patterns through which single, married, and divorced men and women students attained their life quality. It is suggested that quality of life in young adults may be viewed as multidimensional rather than unidimensional. Additional findings and a literature review are included. (Author/SW)

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Quality of Life of Graduate Students:
Importance of and Satisfaction from Life Components

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Running head: QOL LIFE COMPONENTS

Abstract

Data reported by Flanagan (1978, 1979) on a national sample of 30-year-olds and by Carter (1983) on psychology graduate students were compared on the importance ascribed to and satisfaction derived from 15 life components. Weighted and unweighted satisfaction scores were contrasted in examining sex and marital status differences in graduate student quality of life. A principal components analysis of weighted satisfaction scores yielded five orthogonal factors among the 15 life components. Quality of life subscales for active use of leisure time, personal development and fulfillment, personal fulfillment through others, family well-being, and close friends and relatives revealed different patterns through which single, married, and divorced men and women students attained their life quality.

Quality of Life of Graduate Students:
Importance of and Satisfaction from Life Components

In assessing quality of life (QOL) of graduate students, this study and others by these authors (Carter, 1983; Norris et al., 1983) follow the counsel of numerous investigators (Cales & McCall, 1979; Campbell, Converse, & Rodgers, 1976; Flanagan, 1979; French, Rogers, & Cobb, 1974) that the importance an individual ascribes to some aspect of life should be considered when interpreting the satisfaction he or she derives from it. Flanagan (1978, 1979) systematically gathered both importance and satisfaction data on each of his 15 potentially significant life components in national samples of 30-, 50-, and 70-year-old men and women. It remained for Carter (1983), however, to obtain a weighted satisfaction score for each life component in her study of quality of life, adjustment, and stress in graduate students, by multiplying the satisfaction rating by the corresponding importance rating. It is upon these measures--personal ratings of importance, satisfaction, and their products in Flanagan's national and Carter's graduate student sample--that this study is based.

Four QOL-related theoretical issues were addressed in this study. First was the extent to which one can generalize findings from a study of psychology graduate students to American men and women of comparable age. Or, conversely, the extent to which

persons concerned with the well-being of graduate students must tailor policies and procedures for them to distinctive sets of priorities and sources of satisfaction. This issue was addressed by determining the extent to which ratings of importance, ratings of satisfaction, and relationships between the importance and satisfaction ratings for Carter's (198?) graduate student men and women differed from comparable ratings on Flanagan's (1979) representative national sample of persons of similar age.

A second issue considered was the dimensionality of QOL. Is QOL more productively treated as a multiply-determined unitary characteristic as most sociologists and adult personality theorists have done in the past or, alternatively, as a multidimensional phenomenon as recent gerontological literature would suggest? The matrix of intercorrelations among Flanagan life component weighted satisfaction scores in the graduate student sample was factor analyzed to shed light on this issue. Subscale scores for importance, satisfaction, and QOL products then were obtained for five QOL dimensions. These QOL factor subscale and overall scores were summarized to see which approach provided more insight into theoretical and practical problems concerning quality of student life.

Potential gender and marital status differences in QOL for graduate students in their perceptions of the importance of and satisfaction derived from different facets of their lives

provided the third and fourth organizing issues. These were addressed simultaneously since significant sex differences within marital status groupings might be predicted on the basis of previous research. Comparisons of sex x marital status subgroup means means for overall QOL and for QOL factor scores on importance, satisfaction, and QOL products were made through ANOVAs and post hoc analyses to clarify these issues.

Background

Uniqueness of Students

Studies which make either explicit or implicit comparisons between graduate students and men and women in general invariably focus on the special stresses under which graduate students operate. Carter (1983) points out that graduate students have "broad opportunities for personal development and fulfillment," but says:

> As is true in most areas of life, the actual or potential positive aspects of graduate school have not been explored in thought or research. There is no rationale for theorizing either a better or worse adjustment for the average graduate student than for the average citizen (p. 8).

Nevertheless, investigators have speculated that above average levels of stress in graduate students may account for extremely high dropout rates (Sorenson & Kagan, 1967), failure to

achieve full potential (Gregg, 1971), a weakening of professional identity (Butler, 1972), and adverse emotional impact (Feldman, 1974). A catalog of potential stressors of special relevance to the graduate student experience advanced in literature on higher education includes: uninterested or inadequate advisors, unstructured procedures, unnecessary regulations, and the assignment of grades (Topp, 1977); rivalry among students, financial pressures, and pressures from family and employers (Sorensen & Kagan, 1967); role overload (Kahn et al., 1964); unusual work hours, irregular workload, and frequent deadlines (Greenberg & Valletutti, 1980); divergence of philosophy between professors and field supervisors (Dohrenwend & Dohrenwend, 1969); and the most significant of all stressors--nonparticipation in the inner workings of the units to which they belong (Margalis, Kroes, & Quinn, 1974).

Topp (1977) suggested furthermore, that the amount of neuroticism and maladjustment among graduate students was increasing in the late 1970s. He and Kjerulff and Wiggins (1976) advocated systematic identification of sources of stress in graduate programs and elimination of unnecessary contributors to student attrition.

The only empirical study located which contrasted students and nonstudents in their life satisfaction is only marginally relevant since it compared elderly persons ($\underline{M}$ = 77.6 years) with

college students (M = 20.1 years) (Lieberman, 1970). Citing the "astonishing sameness" of the life satisfaction scores for the two groups, this author presented with an admitted lack of evidence the "tantalyzing hypothesis" that

> At some point in life even before the age of 18, an individual acquires what might be called an orientation toward satisfaction which, within a rather broad range of circumstances, he maintains throughout life (p. 79).

If this tantalyzing hypothesis were true, it would suggest that most, if not all, of the differences in life satisfaction or quality of life between students and nonstudents may stem from student self-selection into graduate school rather than graduate school circumstances.

Dimensionality of QOL

Two fundamentally different conceptions of the nature of personal, perceptual QOL are found in the literature of the field. Most sociologists and adult personality theorists treat QOL as a multiply determined, unitary characteristic. They often estimate individuals' QOL through persons' responses to single life-as-a-whole (LAW) questions such as the one used by Campbell, Converse, and Rodgers (1974) in their landmark study of Quality of American Life: Perceptions, Evaluations, and Satisfactions. These investigators used a seven-point Likert scale for responses

to the question "We have talked about various parts of your life, now I want to ask about your life as a whole. How satisfied are you with your life as a whole these days?" These ratings were combined with estimates of the respondent's level of general affect to obtain a single index of overall life satisfaction. Carter's (1983) procedure for obtaining an overall QOL estimate by adding weighted satisfaction scores across Flanagan's (1979) 15 life components represents an alternative approach to measuring QOL as a unitary characteristic.

There is now a growing body of literature which questions the unitary nature of well-being or life satisfaction (George, 1981; Knapp, 1976; Lawton, 1975, 1983; Liang & Bollen, 1983)--one which has focused exclusively to date on elderly populations. Knapp indicates that "The general consensus of opinion, both within gerontology and in its closest relatives, is that well-being is a multidimensional concept (Knapp, 1976, p. 596). Starting with the assumption of four factors (Mood Tone, Zest for Life, Congruence, and Resolution) underlying Neugarten's Life Satisfaction Index (Neugarten et al., 1961), Knapp employed stepwise regression with "a number of biographical and activity indicators used in previous gerontological research" (p. 603). His findings were such as to lead him to conclude, "The encouraging results from this analysis suggest, therefore, that

the multidimensional modeling of life satisfaction is both computationally feasible and theoretically profitable" (p. 603).

Lawton (1983) in his Klumeier Lecture to the Gerontological Society held that

> A major research issue has been whether psychological well-being represents a single construct that can be measured by many indicators or whether it is multidimensional. If it is the latter, we do an injustice to the person in attempting to represent psychological well-being as a single score composed of highly varied indicators (p. 351).

The research of Liang and Bollen (1983) provides Lawton with a valuable framework within which to view well-being. They

> have produced evidence to justify both the unidimensional and the multidimensional view of psychological well-being.... Liang and Bollen's work and ours imply that people may be ranged on a dimension of general psychological well-being, but for some purposes it may be worth differentiating among its components (p. 351).

Liang and Bollen (1983) accomplished this integration of perspectives on well-being by demonstrating through a confirmatory factor analysis showing that global life satisfaction, as measured by the Philadelphia Geriatric Center

Morale Scale, is a second-order factor accounting for the interrelationships among three primary factors. These investigators state:

> This analysis sheds additional light on the dimensionality of the PGC Morale Scale. Depending on the level of abstraction, the PGC Morale Scale is unidimensional as well as multidimensional. At the first-order level, it is multidimensional in that three factors have been found to explain the covariation among 15 observed indicators. The covariation among these three first-order factors (i.e., agitation, dissatisfaction, and attitude towards one's own aging) in turn is explained by a second-order factor, global life satisfaction. Thus, on the second-order level, the PGC Morale Scale has a unidimensional structure. Given such a structure, proponents of the multidimensional concept and those assuming a unidimensional structure are each only partially correct (pp. 187-188).

They go on to further state that

> Although the proposed models are supported empirically and have been replicated consistently, structural variations of this formulation across different subgroups in terms of age, sex, and race should be

> examined. Such efforts will extend the generalizability of the proposed model....

Sex and Marital Status

In their national probability study of The Quality of American Life, Campbell, Converse, and Rodgers (1976) looked systematically for differences in LAW satisfaction ratings for men and women and for persons who were never married (single), married, or divorced (separated or divorced). With respect to sex of respondents, these investigators questioned the position of Gove (1972) who stated, "There are ample grounds for assuming that women find their position in society to be more frustrating and less rewarding than do men." Campbell and his associates concluded instead:

> [W]e see...that women and men given virtually identical answers to...general questions regarding the quality of their life experience. We have seen some small differences in the satisfactions women and men express regarding specific domains of their lives...but when they are asked to describe their lives "as a whole" even these differences disappear (p. 396).

With respect to marital status, however, some general tendencies did appear in the Campbell study. Married men and women, with or without children, were more satisfied with their

lives as-a-whole than either group of currently unmarried persons. And the never married (single) men and women were more satisfied than comparable persons who were separated or divorced.

Within this general conclusion on the influence of marital status on QOL, Campbell et al. found more specifically that:

> [1.] When we simply compare the way married women and men assess their general well-being, we find no differences; indeed, if we look at the successive stages of married life, we see that there is no point at which married women describe their lives in less favorable terms than married men (p. 343).
>
> [2.] Whatever the psychological costs of marriage may be, the costs of remaining single are considerable and that they are greater for men than for women (p. 436).
>
> [3.] Divorced women present the most negative pattern of evaluations of any of the population groups we have considered. Not only do they describe their general well-being very unfavorably, they are also very negative in assessing the specific domains of their lives, including their family life, and they give much more evidence of psychological tension than women in general do. Divorced men also score very low on the measures of well-being, and they are unusually

> dissatisfied with their family life, but they do not show as pervasively negative a pattern as we seen in divorced women (p. 437).

These findings by Campbell et al. served as guiding hypotheses for the present study of psychology graduate students.

Method

The QOL Instrument

Flanagan (1978, 1979) identified in "more than 6500 critical incidents...collected from nearly 3000 people of various ages, races, and backgrounds respresenting all regions of the country" the 15 quality-of-life components presented in Appendix A. In followup studies of 500 men and 500 women of each of three ages--30, 50, and 70 years--he obtained ratings on five-point scales of (a) how important these life components were to the individuals and (b) how well their needs in each area were met. His data on these life component importance and satisfaction ratings were presented in some detail in the two cited publications.

Carter (1983) put the Flanagan life components in a questionnaire format with five-point Likert scales instead of asking for the judgments in interview situations. In her research report she labeled this questionnaire the Flanagan Quality of Life Scale.

Flanagan (1978, 1979) reported the importance and satisfaction ratings given by his samples separately or in the

form of joint distributions. Carter (1983) multiplied each individual's satisfaction rating by the corresponding importance rating. She then summed these products across the 15 life components to get a single measure of QOL.

In the present study, the 15 separate importance x satisfaction products were retained for one level of analysis. These products were later summed within life component subsets corresponding to factors identified in the matrix of their intercorrelations.

The Samples

The data analyzed in this study are those presented by Flanagan (1978, 1979) and by Carter (1983). Detailed descriptions of their samples and data gathering procedures are given in their reports. Since Carter's psychology graduate students had a mean age of 31.85 years, Flanagan's national sample of 30-year-olds was used for comparative purposes where the data were available. This sample of 1000 individuals was drawn by Flanagan from the nationally representative sample of 15-year-olds who participated in Project talent research 15 years earlier.

Analysis

The relative frequency with which Carter's men and women students indicated that life components were important or were sources of satisfaction to them were computed and compared

through critical ratios with corresponding percentages in Flanagan's national sample. Importance and satisfaction profiles of life components for men and women within and between samples were compared through concordance and rank correlation coefficients and mean absolute deviations in the percentages. Product moment correlations between rated importance and satisfaction on each life component for both the national and the student sample were computed also to determine whether or not the two components of the importance x satisfaction products might be considered to be independent.

Product moment intercorrelations among the 15 life component importance x satisfaction rating products were obtained for the 142 psychology graduate students in Carter's sample. A principal components factor analysis using an iterative procedure to obtain stable communality estimates and Varimax rotations was carried out. Factor scores for each of the five identified orthogonal factors were computed. Since the rotated factors closely approximated simple structure, factor subscales were developed on clusters of life components whose largest loadings were on that factor with which they were identified, with all factor loadings being .30 or greater. The factor scores and factor subscale scores were then correlated with each other. Because the correlations between these two factor measures were quite high, subsequent analyses were based on the factor subscale scores.

Sex x marital status x QOL factor subgroup means for subscale scores on importance, satisfaction, and weighted satisfaction (QOL) were compared by repeated measures ANOVAs. Followup ANOVAs for data subsets, Newman Keuls analyses, and *t* tests were used, where appropriate, to isolate mean score differences. A sex x marital status ANOVA was carried out on Carter's overall QOL measure also to help determine the relative advantage of the factor QOL and overall QOL measures.

Results

Comparison Between Student and National Samples

Importance. Presented in Table 1 are the percentages of 30-year-old men and women in Flanagan's (1979) national sample who rated each of his 15 life components either "Important" or "Very Important." Comparable percentages of Carter's (1983) psychology graduate student samples also are given there.

Insert Table 1 about here

Inspection of these summary statistics reveals some noteworthy consistencies. With the exception of the greater importance ascribed in the national sample to having and raising children, participating in government, and helping others, there was a high degree of consistency in the relative importance of the 15 life components across the four subsamples. A coefficient

of concordance of .86 (corresponding to a mean rank order correlation of .81) was significant at the .05 level, $F(14,40) = 18.28$. Within this general consensus, it is apparent also that student men's and student women's importance profiles were very similar (r = .91; M = 6.47, SD = 5.95 for absolute differences in percentages). National sample men's and women's importance profiles also were very similar (r = .90; M = 6.33, SD = 3.77 for absolute percentage differences). Student sample men were less like national sample men (r = .80; M = 11.07, SD = 10.63 for absolute percentage differences), and student sample women were less like national sample women (r = .74, M = 12.33, SD = 13.63 for absolute percentage differences). In the importance they assigned to their life components there was a large measure of agreement among 30-year-old men and women, whether in the national sample or the student sample. However, their status as students or nonstudents was more significant than their sex in accounting for such differences as did exist.

Despite the general similarities in life component importance profiles between the sexes, there were some differences in ways in which men and women assigned their priorities, whether they were in the student sample or the general national sample. Most readily observed in Table 1 is the fact that women placed more importance than men on relationships with relatives (83% vs. 68% for the national sample, and 82% vs.

68% for the students). Self-understanding also was considered more important for women than men (92% vs. 84% for the national sample, and 98% vs. 86% for the students). In both samples, men placed greater importance on active recreation (59% vs. 50% for the national sample and 61% vs. 45% for the students).

The overall similarity in mean importance ratings given by men and women psychology graduate students as well as such differences as did exist also can be seen in Figure 1. The

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Insert Figure 1 about here

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values plotted there are mean values for the QOL factor subscales discussed earlier. Analyses to be reported later in this paper reveal that the differences in means for men and women were not significant at the .05 level unless marital status also was considered. However, their consistency across subscale items as well as their probabilities of chance occurrence of .10 or less suggest that some attention may be paid to the greater importance women students gave to personal development and fulfillment and relationships with close friends and relatives. Men students, on the other hand, ascribed greater importance to their relationships with their spouses (or other significant members of the opposite sex) and to having and raising children.

Satisfaction. Table 2 presents the percentages of men and women in Flanagan's (1979) national sample of 30-year-olds who reported their needs to be Well Met or Very Well Met. Comparable percentages of men and women in Carter's (1983) psychology graduate student sample also are presented there.

Insert Table 2 about here

The most obvious difference in the two samples that can be seen from inspection of these data is that many fewer graduate students were satisfied in 13 of the 15 life components. Only in learning--attending school, improving their understanding, or getting additional knowledge--was a greater percentage of students than national sample members satisfied. In self-understanding, the percentages did not differ. The differences in other life components were not small; the mean absolute difference in percentages for men was 20.27 (*SD* = 8.21) and for women was 28.33 (*SD* = 9.96).

Within samples, however, the percentages of men and women satisfied were very similar. Among students the mean absolute difference was only 6.47 percent (*SD* = 4.22). The difference in percentages satisfied between sexes in the national sample was even smaller (*M* = 1.80, *SD* = 2.08). The coefficient of concordance among the four sample subgroups of .62, with an

equivalent mean correlation of .50, was significant at the .05 level; $F(14,40) = 4.96$. However, the within-sample satisfaction profiles for men and women were very similar ($r = .95$ for the national sample and $r = .75$ for the student sample). Cross-sample profile rank correlations for men ($r = .48$) and for women ($r = .20$) were much lower. Indeed, the women students' satisfaction profile was more similar to that of men students ($r = .30$) than it was to that of the national sample of women ($r = .20$).

Within the student sample, the percentages of men and women satisfied differed significantly at the .05 level on six of the 15 life components. The percentage of men satisfied was greater in (a) relationship with spouse or other member of the opposite sex, (b) having and raising children, and (c) active recreation. The percentage of women satisfied was greater in (a) learning, (b) self-understanding, and (c) socializing.

When QOL factor subscale means rather than individual life component means were compared (see Figure 2), more women students appeared to be satisfied in personal development and fulfillment.

Insert Figure 2 about here

More men, on the other hand, appeared to be satisfied in their family well-being. As with the mean importance ratings, this

interaction (to be reported later in relationship with marital status differences) was not significant at the .05 level ($p < .07$), but the consistency in findings across subscale items suggests some generality to the observations.

Correlations Between Importance and Satisfaction

Product moment correlations between ratings assigned to the importance they ascribe to and the levels at which their needs are satisfied in Flanagan's 15 life components are reported in Table 3 for the graduate student and national samples. Because

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Insert Table 3 about here

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of the large samples, even quite small correlations are shown there to be statistically significant at the .05 level. Without exception, correlations that were significant for the smaller, student sample were significant also for the larger, national sample. No single correlation accounted for more than 13% of the variance ($r = .36$), so the associations were not strong. There were common tendencies in the two samples, however, for there to be positive relationships between importance ascribed and satisfaction experienced in (a) relationship with spouse, (b) relationship with relatives, (c) work, and (d) learning. There was a negative relationship bvetween the importance of material comforts and student satisfaction with them.

The generally low correlations between rated importance and satisfaction on individual life components was taken as evidence of virtual independence of the two characteristics. This provided support for the argument that importance must be considered when deriving LAW satisfaction measures from ratings in separate life components. When the overall student sample mean ratings on importance and satisfaction for the five QOL factors were examined, however, it was found that there was a very substantial correlation (r = .73) between mean factor importance and mean factor satisfaction. In the graduate student sample as a collective, there was a strong tendency toward satisfaction in the broad aspects of life that were seen as important.

Factor Analysis of Life Component QOL Intercorrelations

The matrix of intercorrelations among the 15 life component importance x satisfaction products in the graduate student sample is presented in Table 4. Only 17 of the 105 correlation coefficients reported there were significant at the .05 level, suggesting that there is not a strong common factor underlying the 15 life component scores. Four life components are involved in 13 of the 17 significant correlations. The six negative correlations involve two life components which are positively and significantly correlated with each other. The remaining three positive, significant correlations are among pairs of life

components which are relatively independent of other life component subsets. This visual analysis suggests that QOL as measured by graduate student weighted satisfaction ratings on the 15 Flanagan life components is not a unitary characteristic but one that involves four or five relatively independent clusters of components.

The principal components factor analysis with Varimax rotations supported this observation. Five readily interpretable orthogonal factors were identified. Table 5 includes only

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Insert Table 5 about here

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loadings with absolute values of .30 and above. Factor names of Active Use of Leisure Time, Personal Development and Fulfillment, Self-fulfillment Through Others, Family Well-being, and Close Friends and Relatives seemed to describe the common elements in the life components loading on the five factors.

Two approaches to developing QOL factor scores were employed. One was to apply the transformation matrix stemming from the factor analysis itself. The second was to develop subscales from the 15 life components by including components as measures of the factors on which they loaded most highly. Only three life components were factorially complex so this latter procedure included all 15 life components in the series of

relatively independent subscales. Mean importance, satisfaction, and importance x satisfaction subscale scores were obtained for each graduate student on each QOL factor. Correlations between the factor scores and the corresponding student factor subscale scores were obtained (see Table 6). Because the correlations

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Insert Table 6 about here

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between the two sets of scores were so high and the calculation of subscale scores would be so much simpler for other investigators to replicate, QOL subscale measures were used in subsequent analyses.

Student Sex and Marital Status Differences in QOL Factors

Importance. Five QOL factor subscale importance rating scores were computed for each individual in the graduate student sample. Means and standard deviations of these scores calculated for sex and marital status subgroups are presented in Appendix B. They also were subjected to a 2 x 3 x 5 sex x marital status, x QOL factor repeated measures ANOVA to test for subgroup differences in means. This overall ANOVA summary table is reported as Table B-6.

The sex x marital status x QOL factor interaction on mean importance ratings was not significant at the .05 level, $F(8,492) = 1.72$, $p < .09$. However, marital status did

interaction with both QOL factor [$F(8,492) = 9.25$] and sex [$F(4,492) = 89.36$]. A series of five 2 x 3 sex x marital status ANOVAs was then run, one for each QOL factor, to determine the nature of the overall relationship among subgroup means. The summary tables for these analyses are presented as Tables B-7 through B-11.

In QOL Factor 1, Active Use of Leisure Time, there was a significant difference in mean importance ratings as a function of marital status, $F(2,123) = 4.82$. A post hoc Newman-Keuls analysis, also conducted at the .05 level of significance, revealed that this factor was most important for separated or divorced persons ($M = 4.00$) and least important for the married men and women ($M = 3.58$). Single men and women were between the other two groups ($M = 3.82$) and not significantly different from either of them.

In QOL Factor 2, Personal Development and Fulfillment, the sex x marital status interaction was significant at the .05 level, $F(2,123) = 5.57$. So too was the sex difference, $F(1,123) = 5.23$. The mean importance ratings given by all subgroups of women exceed the highest mean rating given by any subgroup of men. Student t values between mean ratings for men and women within marital status groups revealed, however, that the difference was significant at the .05 level only for separated or divorced students, $t(23) = 3.94$. Personal

Development and Fulfillment was more important for women in this marital subgroup than for any other students, while it was least important for comparable men.

In QOL Factor 3, Self-Fulfillment Through Others, no subgroup means differed significantly from others. It should be noted, however, that for all sex and marital subgroups in this psychology graduate student sample this was the least important of any of the five major aspects of their lives.

In QOL Factor 4, Family Well-Being, significant differences in means were found at the .05 level for sex x marital status interaction, $F(2,123) = 4.05$, and for marital status, $F(2,123) = 14.23$. The Student t test between men and women within marital status subgroups was significant only for separated or divorced persons, $t(23) = 2.55$. Graduate student men in this category ascribed very little importance to relationships with members of the opposite sex or having and raising children.

In QOL Factor 5, Close Friends and Relatives, there were no significant differences in mean importance ratings as a function of either sex or marital status. While all three subgroups of women students gave higher ratings than comparable men, the differences were slight.

On all three of the QOL factors on which significant differences were found, the separated or divorced men's and women's means deviated from others in some way. For Active Use

of Leisure Time, their combined mean importance ratings were high. For Personal Development and Fulfillment, their means ran to the extremes--women ascribing great importance and men ascribing much less. And for Family Well-Being, the mean importance for women was only moderate, but it was much higher than that of comparable men.

Satisfaction. On this variable also, five QOL factor subscale scores were computed for each individual in the graduate student sample. Means and standard deviations of the QOL factor satisfaction scores calculated for sex and marital status subgroups are presented in Appendix C. They also were subjected to a 2 x 3 x 5 sex x marital status x QOL factor repeated measures ANOVA to test for subgroup differences in means. The overall ANOVA summary table is reported in Appendix B as Table C-6

As with the importance ratings, there was no significant sex x marital status x QOL factor interaction at the .05 level, $F(8,432) = 1.27$, $p < .25$. However, there was a significant marital status x QOL factor interaction [$F(8,432) = 11.99$] and a significant difference in mean satisfaction from QOL factors, $F(4,432) = 7.45$. To determine the nature of the interaction that was identified, five 2 x 3, sex x marital status ANOVAs were run--one for each QOL factor. The summary tables for these analyses are presented in Appendix C as Tables C-7 through C-11.

The only QOL factor on which significant differences at the .05 level were found was in Family Well-Being. Here, there were a significant sex x marital status interaction [$F(2,113) = 3.42$], and a significant marital status difference [$F(2,113) = 16.94$]. The interaction could be accounted for by the difference in satisfaction means for single men and single women, $t(31) = 2.02$. Single graduate students of both sexes reported little satisfaction from their relationships with members of the opposite sex and their position with respect to having and raising children. Single men gave particularly low satisfaction ratings in this aspect of their lives.

Although the sex x marital status ANOVAs produced no other significant effects, two additional observations may be relevant. Active Use of Leisure Time was the most satisfying aspect of life for separated or divorced men and was an area in which they were significantly higher than comparable women, $t(24) = 2.11$. Personal Development and Fulfillment had the highest satisfaction mean rating of all QOL factors for women and was an aspect of life in which all three marital subgroups of women gave higher ratings than comparable men, although the differences were small.

QOL. Because Carter (1983) had a relatively small sample of graduate students in her original study and a primary interest in parental role rather than marital status, she did not examine sex and marital status differences with respect to her global QOL

measure. That 2 x 3 sex x marital status ANOVA was carried out in this followup study. The subgroup summary statistics are reported in Appendix D. Table D-2 is the corresponding ANOVA summary table. No significant differences in overall QOL were found as a function of either sex or marital status.

Five QOL factor subscale scores were computed for each graduate student based on the product of his or her importance and satisfaction ratings. These factor QOL measures were summarized and are reported in Tables D-3 through D-7. A 2 x 3 x 5, sex x marital status x QOL factor repeated measures ANOVA was then carried out to determine if sex and marital status were related to the different dimensions of QOL. The summary table on this analysis is presented as Appendix Table D-8.

Although the sex x marital status x QOL factor interaction was not significant at the .05 level $F(8,408) = 1.83$, $p < .07$, both sex of graduate student [$F(4,408 = 3.67$] and marital status [$F(8,408) = 20.97$] did interact with QOL factor. There was also a significant QOL factor effect, $F(4,408) = 61.32$. To explore the nature of these relationships, a series of five 2 x 3 ANOVAs, one for each QOL factor, was carried out. Summary tables for these analyses are presented in Tables D-9 through D-13.

In QOL Factor 1, Active Use of Leisure Time, the marital status difference in QOL was significant at the .05 level. A post hoc Newman Keuls analysis showed that the mean QOL score for

separated or divorced persons (M = 12.84) was significantly higher than that of married persons (M = 11.49). Single men and women had mean QOL scores between these two extremes (M = 12.84) and not significantly different from either of the other groups. For all three marital subgroups, men's QOL means were higher than women's, but the differences were small.

In QOL Factor 2, Personal Development and Fulfillment, .05 level significant differences were found in sex x marital status interaction, $F(2,102) = 4.18$, and sex, $F(1,102) = 4.53$. These relationships were attributable to very similar QOL means for married men (M = 16.10) and women (M = 16.39) while women's means were higher than men's for single persons, (M = 16.44 vs. M = 14.05) $t(29) = 1.82$, and for separated or divorced persons, (M = 17.58 vs. M = 13.03) $t(22) = 3.08$.

No significant differences in QOL means were found in Self-Fulfillment Through Others. Mean scores for all sex x marital subgroups were very low on this QOL factor.

QOL means for QOL Factor 4, Family Well-Being, differed at the .05 level for the three marital status subgroups. A post hoc Newman-Keuls analysis showed married persons to have a higher QOL mean (M = 17.58) than either single (M = 8.23) or separated or divorced (M = 10.31) persons; these latter two groups did not differ significantly. Student's t also was significant between

married men (M = 19.11) and married women (M = 15.98), $t(51)$ = 2.27, with married men reporting the higher QOL.

Marital status differences in QOL at the .05 level were found also in Factor 5, Close Friends and Relatives. A post hoc Newman-Keuls analysis revealed that single persons report a higher QOL in this aspect of life than either of the other marital subgroups, which do not differ from each other.

Considered together, these findings indicate that such sex and marital status QOL effects as did exist varied from one QOL dimension to another. When the importance x satisfaction products were simply summed across all 15 life components, scores from the separate dimensions balanced out, masking the fact that men and women graduate students experienced their highs and lows in QOL in different aspects of their lives.

Discussion

Two outcomes from this study support the counsel by previous investigators (Cales & McCall, 1979; Campbell, Converse, & Rodgers, 1976; Flanagan, 1979; French, Rogers, & Cobb, 1974) that the importance individuals ascribe to some aspect of life should be considered when interpreting the satisfaction they derive from it. First is the finding in both Flanagan's (1979) national sample and in Carter's (1983) graduate student sample that the two measures were virtually independent of each other. Importance ratings provided new, rather than redundant

information about respondents' perceptions of their lives. This position, argued on intuitive grounds in the past, is now seen to have empirical support at least for 30-year-old Americans and a highly specialized population of graduate students.

That this new, supplementary information is useful is found in comparing conclusions reached about graduate student men and women in various conditions with respect to marriage using their unweighted and their weighted satisfaction ratings. The unweighted ratings revealed sex x marital status differences in only one major life domain--family well-being. The weighted ratings, however, revealed significant and meaningful differences in four of the five major life domains represented in the Flanagan life components. Since the process of obtaining and combining importance and satisfaction ratings is so straightforward, it is difficult to see why previous investigators have not acted on the counsel they have given and received. Certainly the results of the present indicate that doing so may unlock important relationships previously obscured.

Another major conclusion reached in this study which could have a profound effect on QOL assessment is that QOL in young adults may profitably be viewed as multidimensional rather than unidimensional. The widespread use of LAW measures such as those summarized by McKennell and Andrews (1979) and used by Campbell and associates (1976) or the summing of domain satisfaction

scores as done by Carter (1983) may obscure rather than reveal complex relationships. Gerontologists such as Knapp (1976), George (1981), Lawton (1983), and Liang and Bollen (1983) who have been advocating and using a multidimensional framework will find support in the present study. Identifying meaningful, orthogonal factors embedded in the Flanagan life components certainly indicates that this alternative view is possible. That it is also a productive view is evidenced by the identification of sex and marital status differences on four of five QOL factors which had been obscured or balanced out in Carter's (1983) overall QOL measure.

The importance of the multidimensional perspective on QOL is set forth well by Lawton:

> The kernel of my message...is that lack of predictability from one sector of well-being to another...is the normal state of affairs to be expected for the human condition. Specifically I suggest that the relative autonomy among sectors is what makes normal human existence possible. If a change in one sector were to be immediately reflected in every other sector, chaotic instability would be the result. The idea of relative autonomy among systems is well-known in the biological sciences. For the behavioral system each sector of the good life has

its own structure and its own legitimacy as a goal for individuals and for society as a whole. Our usual practice is to look for, expect, and feel disappointed if we do not obtain high correlations between our measures in different sectors. We must learn to be more discriminating in our expectations, which in turn will lead to better science (p. 355).

An important corollary of this conclusion regarding intersector autonomy is that one should not insist on demonstrating that an improvement in one sector of well-being should lead to improvement in another sector. Translating the good life into social goals, well-being in the different sectors might be looked upon as the right to health, happiness, satisfaction with daily life, and a good environment. Does it make sense to suggest that in order to justify our attempts to improve one of these sectors we must show that its effects are reflected in another sector? Sometimes we can, but we should not be surprised or consider our program a failure if we cannot. Above all we must insist on the right of each person to define his idiosyncratic life goals and to eschew the neatness of total congruence among elements of the good life if he wishes (p. 356).

This right of the individual to define his or her own life goals bears directly, of course, on the level of importance ascribed to different life components. In the present study there was a surprising consistency between graduate student and national sample priorities. Whether the lesser importance given by students to having and raising children and institutionalized approaches to helping others is an expression of life style preference or graduate school circumstance is open to conjecture. The observation that women in this study were more introspective and involved with their families of origin while men were more activity oriented may lend validity to other findings, but it is not surprising.

The sex and marital status differences on QOL factors also were consistent in most respects with those of Campbell et al. (1976) and reflect alternative models of Lawton's "good life." The good life for married men and women graduate students, even though not married to each other, is in their relationships with their spouse and their children and their personal development and fulfillment. Separated or divorced persons found their good life in their active use of leisure time and, for divorced women, in the elements reflective of personal development and fulfillment--learning, work, and self-understanding. Both single men and single women found their good life in their families of origin and in their close friendships; single women also gained

satisfaction from their learning, their work, and the self-understanding they felt they were gaining.

The one major difference between the Campbell et al. conclusions concerning sex and marital status differences in QOL and those of the present study focuses on separated or divorced women. From evidence in their national probability study they state, "The picture of divorced women is unrelievedly negative. [T]hey find their lives less satisfying than other women do and marked by much psychological stress" (p. 421). This was not found to be the case for graduate student women who were separated or divorced. Graduate school may have been for them a sanctuary in which they were recovering from a previous condition or an arena in which they were forging a new life. In either event, they were finding satisfaction in their work, their studies, their progress toward self-understanding, and their use of leisure time, making their graduate school experiences very satisfying periods of transition.

The data reported by Flanagan (1978, 1979) and by Carter (1983) provided rich insights into all the issues on which this present study focused. The use of importance weighted satisfaction scores rather than unweighted satisfaction scores provided highly beneficial in isolating meaningful relationships between QOL perceptions and sex and marital status. So too did the multidimensional perspective on QOL more familiar to

gerontologists. Insights were gained into alternative models for the good life by students and nonstudents of comparable age and by men and women students who differ in condition of marriage. Important new areas for inquiry and for improvement in graduate school policies also were identified.

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Table 1

Percentage of Men and Women in Student and National Samples Ascribing Importance to Life Components

		Graduate Students[a]		National Sample[b]	
	Life Component	Men	Women	Men	Women
V1	Material Comforts	55	66	80	75
V2	Health and Personal Safety	89	92	98	98
V3	Relationships with Relatives	66	82	68	83
V4	Having and Raising Children	55	47	84	93
V5	Relationship with Spouse	89	86	90	94
V6	Close Friends	82	85	71	79
V7	Helping & Encouraging Others	43	36	60	71
V8	Participation in Government	14	11	47	42
V9	Learning	91	95	87	81
V10	Understanding Yourself	86	98	84	92
V11	Work	88	88	91	89
V12	Creative Self Expression	64	58	48	53
V13	Socializing	52	45	48	53
V14	Passive Recreation	48	49	56	53
V15	Active Recreation	61	45	59	50

Note. Importance is ascribed to ratings of Important or Very Important

[a]Mean age=31.85 years.

[b]Based on Flanagan's national sample of 1000 30-year olds.

Table 2

Percentage of Men and Women in Student and National Samples Satisfied in Life Components

		Graduate Students[a]		National Sample[b]	
	Life Component	Men	Women	Men	Women
V1	Material Comforts	45	49	74	76
V2	Health and Personal Safety	55	52	86	86
V3	Relationship with Relatives	55	60	81	81
V4	Having and Raising Children	58	49	80	83
V5	Relationship with Spouse	62	47	84	81
V6	Close Friends	65	65	81	82
V7	Helping & Encouraging Others	52	54	61	62
V8	Participation in Government	41	37	54	54
V9	Learning	68	79	58	50
V10	Understanding Yourself	68	75	74	71
V11	Work	56	52	79	79
V12	Creative Self Expression	39	32	60	57
V13	Socializing	39	48	73	74
V14	Passive Recreation	52	48	71	70
V15	Active Recreation	41	28	6	63

Note. Satisfaction is indicated by ratings of needs Well Met or Very Well Met.

[a]Mean Age-31.35 years.

[b]Based on Flanagan's sample of 1000 30-year olds.

Table 3

Correlation Betwen Rated Importance and Satisfaction in Student and National Sample

		Graduate Students[a]		National Sample[b]	
	Life Component	r	N	r	N
V1	Material Comforts	-.20*	141	-.10*	995
V2	Health and Personal Safety	.11	141	.08*	994
V3	Relationships with Relatives	.36*	142	.21	966
V4	Having and Raising Children	.11	120[b]	.36	955
V5	Relationship with Spouse	.36*	138	.33*	952
V6	Close Friends	.16	141	.19*	993
V7	Helping & Encouraging Others	.14	140	.13*	987
V8	Participation in Government	-.10	137	-.03	972
V9	Learning	.25*	142	.08*	984
V10	Understanding Yourself	.07	142	.19*	981
V11	Work	.20*	141	.16*	981
V12	Creative Self Expression	.08	142	.09*	980
V13	Socializing	.09	141	.07*	985
V14	Passive Recreation	.05	142	.02	993
V15	Active Recreation	.14	142	.13*	991

*Significant at .05 level.

[a]National sample results based on Flanagan's report on 1000 50-year old men and women; data on 30-year old men and women not published.

[b]Several students omitted this life component or indicated that it was not relevant.

Table 4

Life Component Importance x Satisfaction Means, Standard Deviations, and Intercorrelations*

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	M	SD
V1	1.00	.31	.08	.18	.19	.15	.11	.14	.22	.13	.29	.16	.18	.18	.08	12.14	5.06
V2		1.00	.24	.05	.14	.20	.21	.12	.16	.20	.29	.30	.13	.25	.40	15.67	6.16
V3			1.00	.11	.25	.22	.29	.26	.08	.09	.03	.01	.08	.22	.14	15.39	6.39
V4				1.00	.43	-.16	.13	.21	.03	.03	.27	.07	-.12	-.07	-.06	11.16	8.29
V5					1.00	.02	.03	.11	.16	.10	.18	.17	-.09	-.03	.09	14.96	7.69
V6						1.00	.27	.09	.30	.24	.24	.14	.53	.38	.25	16.30	5.75
V7							1.00	.41	.22	.12	.26	.39	.28	.30	.23	10.92	5.64
V8								1.00	.26	.04	.10	.35	.13	.25	.26	7.12	4.74
V9									1.00	.39	.27	.39	.26	.27	.17	18.27	5.56
V10										1.00	.36	.28	.20	.10	.07	17.77	5.13
V11											1.00	.32	.30	.15	.16	15.04	6.25
V12												1.00	.34	.40	.49	11.58	5.58
V13													1.00	.63	.42	11.44	5.12
V14														1.00	.55	11.88	5.23
V15															1.00	10.83	5.58

* Intercorrelations > .17 significant at .05 level.

Table 5

Loadings of Flanagan Life Components as QOL Factors*

Factor	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	% of Variance
F1 Active Use of Leisure Time	--	.40*	--	--	--	--	--	--	--	--	--	.50*	.45*	.61*	.83*	51.3
F2 Personal Development and Fulfillment	.31*	--	--	--	--	.43	--	--	.51*	.56*	.59*	.41	.42	--	--	19.2
F3 Self-fulfillment Through Others	--	--	--	--	--	--	.54*	.68*	--	--	--	.45	--	--	--	9.7
F4 Family Well-being	--	--	.60*	.59*	--	--	--	--	--	--	--	--	-.32	--	--	12.1
F5 Friends and Relatives	--	--	--		--	.50*	.51*	--	--	--	--	-.31	--	--	--	7.6

V1 Material Comforts
V2 Health and Personal Safety
V3 Relationships with Relatives
V4 Having and Raising Children
V5 Relationship with Spouse
V6 Close Friends
V7 Helping and Encouraging Others
V8 Participation in Government
V9 Learning
V10 Self-understanding
V11 Work
V12 Creative Self-expression
V13 Socializing
V14 Passive Recreation
V15 Active Recreation

*Items included in QOL factor subscale.

Table 6

Correlations Between QOL Subscale and Factor Scores

Factor	Importance	Satisfaction	QOL
F1. Leisure	.87	.89	.89
F2. Personal Development	.85	.88	.88
F3. Others	.85	.94	.89
F4. Family Well-Being	.82	.83	.86
F5. Friends and Relatives	.76	.80	.82

Author Notes

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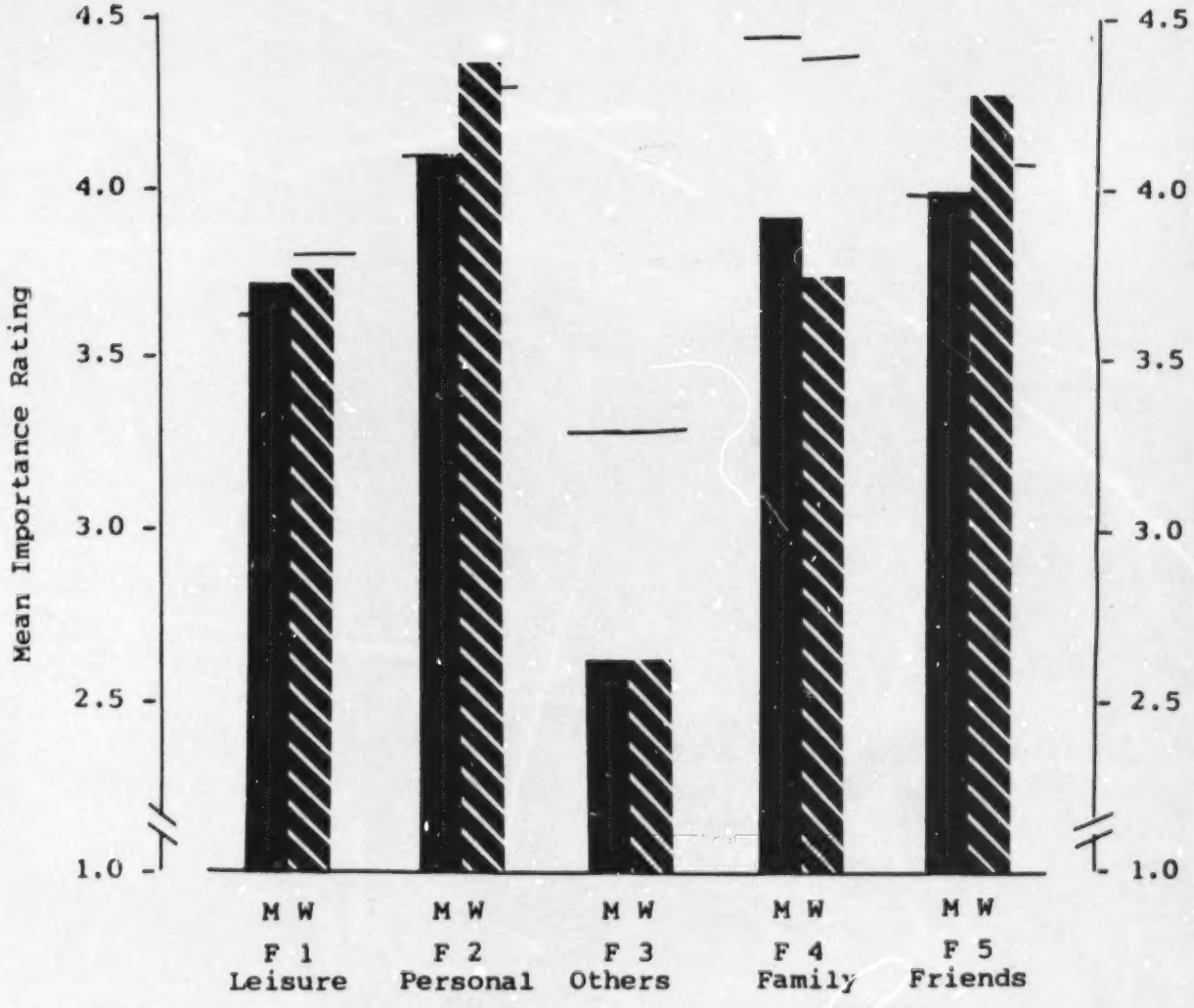

Figure 1. Mean importance ratings for student (bars) and national (lines) samples of men and women on QOL factor subscales.

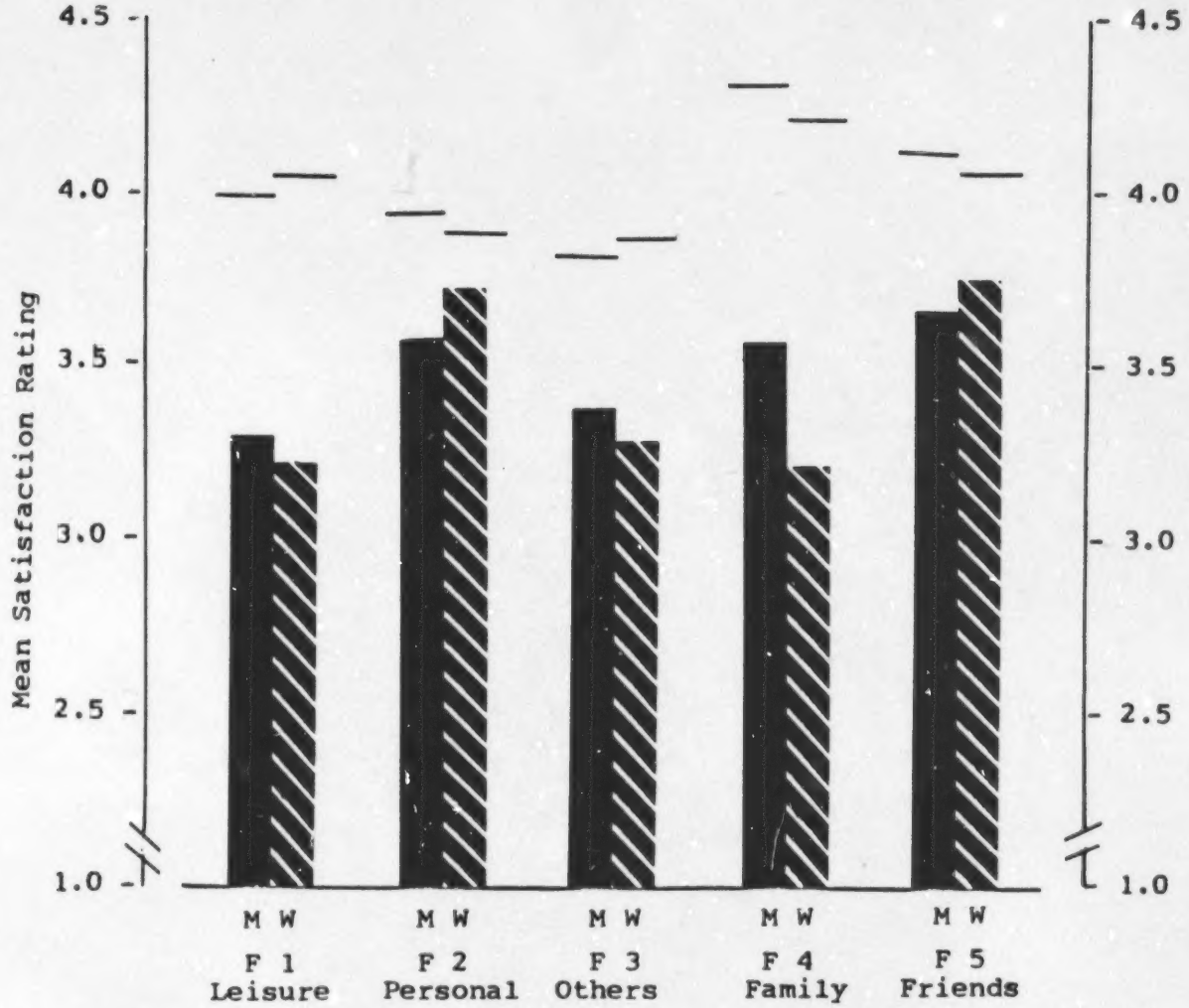

Figure 2. Mean satisfaction ratings for student (bars) and national (lines) samples of men and women on QOL factor subscales.